Results: Plasma resistin and resistin:adiponectin ratio were higher in asthma compared to controls [7.2 (4.8-9.6) *vs.* 4.8 (3.7-7.3) ng/mL, $p = 0.005$ and 3.04 ± 0.58 *vs.* $1.55 \pm 0.23 \times 10^{-3}$, $p = 0.019$ respectively] and further increased in subjects with a severe asthma pattern. Resistin:adiponectin ratio was increased in obese asthma compared to non-obese asthma and non-obese controls. Resistin:adiponectin ratio was increased in obese females, non-obese males and obese males compared to non-obese females. Using multiple linear regression, both resistin and resistin:adiponectin negatively predicted lung function. Following weight loss, resistin and resistin:adiponectin ratio were unchanged. However, change in %body fat was associated with change in resistin:adiponectin ratio.
Conclusions: Resistin:adiponectin ratio is increased in asthma and further increased in subjects who are obese, have more severe disease and are male. As resistin and resistin:adiponectin ratio negatively predict lung function, these adipokines may provide a therapeutic target for obese asthma.
Funding source(s): Hunter Medical Research Institute.

ADULT SNACKING IN AUSTRALIA: UNDERSTANDING WHO, WHAT, WHEN AND HOW MUCH

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Background/Aims: There are limited data on snacking behaviour of Australian adults.
Methods: Weekday data from the 2011-12 National Nutrition and Physical Activity Survey were used. Eating occasion (EO) was defined as any food or beverage consumed at a unique time. A snacking occasion (SO) was defined as an EO during a 'between main meal' time period. Daily number of EO, SO, items consumed, %energy contribution of SO and discretionary energy intake were determined and multiple linear regression was used to adjust for confounders.
Results: Adults consumed on average 7 EO and 2 SO per day. Adults consumed 4 items per day from all SO compared to 14 items from all main meals, and 88% of adults had at least 1 SO/day. The most popular SO was the morning (69%) and provided an average of 12.6% of total energy intake. Higher SO/day was associated with greater total energy intake, similar BMI and waist circumference compared to lower SO/day. SO contributed 22% of total energy and between 16%-32% of total nutrient intake. All SO combined contributed 29% of total discretionary energy intake, whereas the evening main meal contributed 44%. The top three food groups that contributed the most energy during SO were; cakes, muffins, scones, cake-type desserts; regular breads, and bread rolls; and dairy milk.
Conclusions: Snacking behaviour was prominent among adults but contributed less than a quarter of total energy intake. The evening main meal contributed the most discretionary energy and needs further investigation.
Funding source(s): Nestlé Australia Ltd.

THE DIETARY MODELLING TOOL: USING ONLINE CONSTRAINT OPTIMISATION TECHNIQUES TO STREAMLINE FOOD-BASED DIETARY PRESCRIPTIONS

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Background/Aims: Standardised background diets for participants of food-based randomised trials are vital. For this, dietary modelling based on the percentage contributions from macronutrients or particular food group and their serving sizes is employed. Modelling accuracy is critical to assuring reliability and validity of the research and can significantly impact on the translation to practice. This study describes the development of the dietary modelling tool and its relative validity compared to manual and semi-automated approaches to modelling.
Methods: Constraint optimisation techniques were used to determine whether non-linear constraints are best suited to the development of the automated modelling tool. Using standard practice as a reference, dietary models were produced and compared (manual and semi-automated).
Results: The Dietary Modelling Tool was produced online using constraint optimisation, incorporating estimated energy requirement calculations and based on Australian food guidance systems. Output for all tools was the number of food group servings required by a person of given energy requirements, to meet the macronutrient criteria of a hypothetical study. Percentage differences between tools revealed similar results across modelling tools. Poly-unsaturated fatty acids and monounsaturated fatty acids showed the most variation (up to 200%) across tools, though not clinically significant (equating to 2 tsp difference).
Conclusions: Automated modelling tools can streamline the modelling process for food-based trials, however, appropriate constraints must be entered to achieve desired results. Relatively, similar results were found with less automation, suggesting interchangeability of tools though implementation should reflect the requirements and capacity of study.
Funding source(s): University of Wollongong ECR grant.

WELLNESS, WELLBEING AND FOOD CHOICE CLINICAL PRACTICE TOOL – A WAY FORWARD FOR PATIENT-CENTRED WEIGHT LOSS PRACTICE

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Background/Aims: Evolving social constructs of health incorporating concepts of wellness and wellbeing may challenge nutritionists with the implementation of patient-centred interventions. This study aimed to describe the two-stage development of a clinical questionnaire tool based on a research derived Wellness, Wellbeing and Food Choice Framework (WWFCF) to support patient-centred weight loss.
Methods: In stage one, existing validated questionnaires were reviewed to identify suitable items related to themes and sub-themes developed initially with female respondents. Male response data from the original WWFCF study was also analysed using the coding framework from the WWFCF to determine suitability and relevance of use of items in a male population. *Nvivo* software was used to manage and organise this secondary qualitative analysis. At completion of stage one, a 23 item prototype questionnaire tool was developed. Stage two sought to refine the tool further by assessing face validity with ten experts in health academia. Feedback from face validity identified ambiguous and/or inappropriate items which were altered or eliminated. Structural changes were also imposed based on face validity data to improve the clarity of the questionnaire tool.
Results: The final prototype developed is a self-report questionnaire tool, consisting of 21 items reflecting the key themes of the WWFCF framework.
Conclusions: The tool should allow nutritionists develop strategies incorporating patient-centred approaches in weight loss intervention. Further research is required to assess the suitability of the tool in actual practice. The research thus far may act as a platform for further tests of construct validity and reliability.
Funding source(s): Smart Foods Centre UOW.

DISCRETIONARY INTAKE AMONG ADULTS: TOP FOODS, TIME OF CONSUMPTION AND ASSOCIATION WITH SEX, WEIGHT AND SOCIO-ECONOMIC STATUS

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Background/Aims: Discretionary foods (DF) should be consumed occasionally but contribute 35% of total energy intake (%en), highlighting the need to profile consumption.
Methods: Data from the 2011-12 National Nutrition and Physical Activity Survey were used, including self-reported eating occasions (REO). Prevalence of consumption, DF serves (1 = 600 kJ), nutrient contribution from DF and top DF food groups by REO were calculated by age, gender, socio-economic status (SES) and weight status. DF consumers (> 0 grams) were